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EXAMINER	
MANOHARAN, MUTHUSWAMY GANAPATHY	
ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

doipdocket@fulbright.com

Office Action Summary	Application No.	Applicant(s)	
	10/825,089	CHAU ET AL.	
	Examiner	Art Unit	
	MUTHUSWAMY MANOHARAN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant argues that Examiner failed to show that the references teach the limitations as a whole, "monitoring signal strengths of said first and second access points as received by said first and second stations; and switching to routing data between said plurality of wireless and said second access point using said second station in response to said monitoring".

Examiner respectfully disagrees.

Matsumoto teaches handover based on signal strength (P[0005, 0007]) and also one of ordinary skill in the art knows the word handover teaches that monitoring signal strengths and also switching based on that monitoring.

It is to be noted that Matsumoto teaches two antennas (7c,7d and 7a,7b), the antenna 7a,7b is communicating with access point 5b (Figure 4) and antenna 7c,7d is communicating with access point 5b (Figure 4).

Also, fall of a signal level is expected from the access point 5a (as the vehicle moves away from the access point 5a) and the wireless station 7c7d is receiving the signal from access point 5a(item S2 in Figure 4). Therefore, Matsumoto teaches monitoring signal strengths of said first access point as received by said first station 7a7b(Figure 4).

Further station 7a7b is receiving signal from access point 5b (as the vehicle moves towards an access point 5b, Figure 4) and therefore the signal from the access point 5b is first received by the wireless station 7a7b which is closer to the access point

5b and therefore, Matsumoto teaches monitoring signal strengths of said second access point as received by said second station 7a7b(Figure 4).

In view of this, Matsumoto teaches "monitoring signal strengths of said first and second access points as received by said first and second stations; and switching to routing data between said plurality of wireless and said second access point using said second station in response to said monitoring".

Applicant argues that Paragraph [0005] merely describes a single mobile station apparatus that has a single antenna, which detects the fall of a receiving level from a first access point.

Matumoto teaches two wireless stations (7a7b and 7c7d of Figure 4) and two access points (5b and 5a of Figure 4) and the vehicle is moving towards access point 5b and moving away from access point 5a the signal strength from access point 5a deteriorate and the signal strength from the access point improves.

Ordinary skill in the art knows handover involves two access points and the wireless station searches for an access point with better signal strength. This concept as recited Matsumoto in P[0005] can be applied to the system of Matsumoto with two wireless stations as shown in Figure 4.

Also, one of ordinary skill in the art knows that the wireless station (7a7b of Figure 4) which is closer to an access point (5b of Figure 4) will first receive the signal from the access point.

Applicant further argues that the first and second stations are part of a wireless switch. But the mobile communications apparatus relied upon by the Examiner in Paragraph [0005], to teach monitoring signal strengths, is neither a wireless switch nor shown to be part of a wireless switch.

Examiner respectfully submits that it is within the scope of ordinary skill in the art to use the concept as recited Matsumoto in P[0005] to a system of Matsumoto with two wireless stations as shown in Figure 4.

Applicant argues that claim 1 requires that wireless switch is capable of monitoring signal strengths and also switching based on that monitoring. Therefore, paragraph [0005] does not teach a wireless switch.

Matsumoto teaches "handover" (P[0006]) and one of ordinary skill in the art knows the word handover teaches that monitoring signal strengths and also switching based on that monitoring.

Applicant further argues that parsing the limitations into different parts and pointing to different devices for teaching the different aspects of the limitation is improper and does not show that the references teach or suggest the limitation as a whole.

The limitations monitoring signal strengths and performing handover are well known in the art and Matsumoto teaches that limitation also(P[0005, 0007]). Matsumoto does not have to teach the well known concept in every paragraphs where switching is performed, since they are within the scope of ordinary skill in the art to apply these concepts.

Dependent claims 2, 8 and 18

In response to Appellant's argument with respect to claims 2, 8 and 18, Examiner respectfully submits that the argument has been addressed above in light of the independent claim 1.

B. 35 USC 103(a) Rejection over Aramaki in view of Matsumoto and Chia

In response to Appellant's argument with respect to claims 3 and 11, Examiner respectfully submits that the argument has been addressed above in light of the independent claim 1.

C. 35 USC 103(a) Rejection over Aramaki in view of Matsumoto and Volko

In response to Appellant's argument with respect to claims 4, 10 and 17, Examiner respectfully submits that the argument has been addressed above in light of the independent claim 1.

D. 35 USC 103(a) Rejection over Aramaki in view of Matsumoto and Hoffmann

In response to Appellant's argument with respect to claims 5,6 and 14-16, Examiner respectfully submits that the argument has been addressed above in light of the independent claim 1.

E. 35 USC 103(a) Rejection over Aramaki in view of Matsumoto and Zhang

In response to Appellant's argument with respect to claims 7 and 12, Examiner respectfully submits that the argument has been addressed above in light of the independent claim 1.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 1, 2, 8, 9, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aramaki et al. (US 2005/0078632 hereinafter Aramaki) in view of Matsumoto et al. (JP 10164640 hereinafter Matsumoto)

Regarding **claim 1,** Aramaki discloses a method of managing communications associated with a plurality of wireless devices (**figure 5, numerous mobile nodes VMNs**) comprising the steps of detecting a first access point (**figure 4, 35a**), associating a mobile router (**figure 4, 15**) , read as a wireless switch, with said first access point

(**figure 4, 35a**), routing data between said plurality of wireless devices and said first access point using said mobile router (**[0068], Aramaki teaches numerous mobile nodes VMNs residing in the mobile body 1, connectable trough the mobile router, and first base station 35a constituting a first link to external network so that one skill in the art would recognize the mobile router for routing data between the numerous mobile nodes VMNs and first base station 35a when the first base station 35a is detected**), detecting a second access point (**figure 5, 35b)**, associating said mobile router (**figure 5, 15**) with said second access point (**[0072]-[0073], Aramaki teaches when the mobile body 1 entering in overlap range 37, the mobile router 15 is communicable with a second base station 35b constituting a second link, so that one skill in the art would recognize to associate the mobile router with the second base station 35b when the second base station 35b is detected**), and switching to routing data between said plurality of wireless devices and said second access point (**[0074]-[0075] and [0080]-[0082], Aramaki teaches path switching/handover between the first base station 35a and the second base station 35b so that one skill in the art would recognize of switching to routing data between the numerous mobile nodes VMNs and the second base station 35b when the mobile body 1 moves towards to a coverage area of the second base station 35b**).

Aramaki differs from the claimed invention in not specifically teaching the steps of associating the first station of a wireless switch associates with the first access point, associating the second station of the wireless switch with the second access point,

monitoring signal strengths of said first and second access points as received by said first and second station and switching to the second access point using the second station in response to the monitoring.

However, Matsumoto teaches a mobile communications system comprising a wireless switch (**figure 1, internal base station 7e, switching part 7g,and change control part 7h**) and a first station (**figure 1, 7c**) and a second station (**figure 1, 7a**) and an enhance method for which can be continuously perform communications when mobile communication equipment moves at high speed (**abstract**) comprising the steps of associating the first station (**figure 3, 7c**) with the first access point (**figure 3, 5a, [0029], element 7c will be in a link state by a first base station 5a via S2 when a high speed mobile 7 is detected in a cell A3**), associating the second station (**figure 4, 7a**) with the second access point (**figure 4, 5b, [0030], element 7a will be in a link state by a second base station 5b via S3 when the high speed mobile enters in a cell A4 as detected by the second base station**), and switching or handover to the second access point (**[0030]-[0032], change control part 7h cancels the link state by slot S2 and changes the switching part 7g so that the internal base station 7e in the high speed mobile 7 and the second station 7a is connected for communicating with the second base station 5b**).

Matsumoto also teaches to determine a receiving level, i.e., signal strength, of link states between a mobile communication apparatus and base stations in order to performing handover (**[0005]**) such that one skill in the art would recognize the handover process as taught by Matsumoto comprising the steps of monitoring signal

strengths of said first and second access points as received by said first and second stations; and switching to routing data between said plurality of wireless devices and said second access point using said second station in response to said monitoring. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Aramaki in having the steps of associating the first station of a wireless switch associates with the first access point, associating the second station of the wireless switch with the second access point, monitoring signal strengths of said first and second access points as received by said first and second station and switching to the second access point using the second station in response to the monitoring, as per teaching of Matsumoto, because it improve the mobile communications system which can be performed without breaking off communication even if it is a case where the mobile communication apparatus is moving at high speed.

Regarding **claim 2**, Aramaki discloses the method of claim further comprising: associating said access point of wireless devices with an access point of a wireless switch (internal communication means for making communication with a plurality of terminals, P[0040], figure 8, item 41 and items 21).

Regarding **claim 8**, Matsumoto discloses the method of claim wherein said wireless switch is disposed within a transportation vehicle(Figure 6, high speed moving body 7and the wireless switch 7g).

Regarding **claim 9,** Aramaki discloses a wireless switch system for managing communications of a plurality of wireless devices (**figure 5, numerous mobile nodes VMNs**) comprising an internal access point (**figure 4, a mobile router 15**) for

managing a wireless local area network that includes said plurality of wireless device (**[0069], numerous mobile nodes WMNs in the mobile body 1 are grouped by the mobile router to produce a wireless local area network**), and the mobile router for communicating with external access points and routing data between the plurality of wireless devices and external access points (**figure 5, 35a and 35b, ([0072]-[0073], Aramaki teaches the mobile body 1 entering in overlap range 37, which the mobile router 15 is communicable with a first base station 35a constituting a first link and a second base station 35b constituting a second link**). Aramaki differs from the claimed invention in not specifically teaching a plurality of stations for communicating with external access points and a packet switch controller for routing data between said plurality of wireless devices and external access points using said plurality of stations, wherein said packet switch controller is operable to switch communications between said plurality of stations in response to signal strengths received from said plurality of access points crossing threshold values. However, Matsumoto teaches a mobile communications system comprising a plurality of stations (**figures 1 and 4, 7a and 7c**) for communicating with external access points (**figure 4, 5a and 5b**), and a packet switch controller (**figure 1, 7h**) for routing data between a wireless device (**figure 4, 4**) and external access points (**figure 4, 5a and 5b**) using said plurality of stations (**figure 4, 7a and 7c, [0029]-[0032], change control part 7h changes the switching part 7g for connecting internal base station 7e with a first station 7c for communicating with external base station 5a as the high speed mobile 7 moves toward to back end portion of a cell A3, and changes the**

switching part 7g for connecting internal base station 7e with a second station 7a for communicating with external base station 7b as the high speed mobile 7 moves enters in a cell A4). Matsumoto also teaches to determine a receiving level, i.e., signal strength, of link states between a mobile communication apparatus and base stations in order to performing handover (**[0005]**) such that one skill in the art would recognize the packet switch controller as taught by Matsumoto operable to switch communication between said plurality of stations in response to signal strengths received from said plurality of access points crossing threshold values. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Aramaki in having a plurality of stations for communicating with external access points and a packet switch controller for routing data between said plurality of wireless devices and external access points using said plurality of stations, wherein said packet switch controller is operable to switch communications between said plurality of stations in response to signal strengths received from said plurality of access points crossing threshold values, as per teaching of Matsumoto, because it improve the mobile communications system which can be performed without breaking off communication even if it is a case where the mobile communication apparatus is moving at high speed.

Regarding **claim 13,** Aramaki discloses a wireless system as shown in figure 5, comprising: a plurality of access points (**figure 5, 35a and 35b**); and a wireless switch (**figure 5, a mobile router 15**), wherein the wireless switch is operable for managing communication with a plurality of wireless devices **([0068]-[0069]**). Aramaki differs from

the claimed invention in not specifically teaching the wireless switch comprising a plurality of stations for communicating with said plurality or access points, an internal access point for managing communication with a plurality of wireless devices, and a packet switch controller for directing data between said plurality of stations and said plurality of wireless devices, wherein said packet switch controller switches between said plurality of stations in response to signal strengths received from said plurality of access points. However, Matsumoto teaches a wireless switch comprising a plurality of stations (**Figure 1**, **7c and 7a read as plurality of stations**) for communicating with a plurality of access points (**Figure 4**, **5a and 5b**), an internal access point (**Figure 1**, **7e** for managing communication with a plurality of wireless devices (**[0020]**) ; and a packet switch controller (**figure 1, change control part 7h and the associated switch 7g**) for directing data between said plurality of stations and a wireless device (**figure 4, 4**, **[0029]-[0032], change control part 7h changes the switching part 7g for connecting internal base station 7e with a first station 7c for communicating the mobile communication apparatus 4 with external base station 5a as the high speed mobile 7 moves toward to back end portion of a cell A3, and changes the switching part 7g for connecting internal base station 7e with a second station 7a for communicating the mobile communication apparatus 4 with external base station 7b as the high speed mobile 7 moves enters in a cell A4**). Matsumoto also teaches to determine a receiving level, i.e., signal strength, of link states between a mobile communication apparatus and base stations in order to performing handover (**[0005]**) such that one skill in the art would recognize the packet switch controller as

taught by Matsumoto switching between said plurality of stations in response to signal strengths received from said plurality of access points. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Aramaki in having the wireless switch comprising a plurality of stations for communicating with said plurality or access points, an internal access point for managing communication with a plurality of wireless devices, and a packet switch controller for directing data between said plurality of stations and said plurality of wireless devices, wherein said packet switch controller switches between said plurality of stations in response to signal strengths received from said plurality of access points, as per teaching of Matsumoto, because it improve the mobile communications system which can be performed without breaking off communication even if it is a case where the mobile communication apparatus is moving at high speed.

Regarding **claim 18**, Matsumoto discloses the wireless system of claim wherein said wireless switch is mounted to a transportation vehicle(Figure 6, high speed moving body 7and the wireless switch 7g).

4. Claim 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aramaki et al. (US 2005/0078632 hereinafter Aramaki) in view of Matsumoto et al. (JP 10164640 hereinafter Matsumoto) and Chia (US 5396253).

Regarding **claim 3,** the combination of Aramaki and Matsumoto teaches all the particulars of the claim except wherein said monitoring comprises: applying a filtering function to received signal strengths. However, Chia teaches in an analogous art,

wherein said monitoring comprises: applying a filtering function to received signal strengths (filtering can be perfomed using ... signal strength,Col. 2, lines 65-68). Therefore, it would be obvious to one of ordinary skill in the art the time of invention to use the method except wherein said monitoring comprises: applying a filtering function to received signal strengths. This modification improves reliability of the signal strength estimate during a deep fade in a high speed environment.

Regarding **claim 11**, the combination of Aramaki and Matsumoto teaches all the particulars of the claim 9. Matsumoto further teaches the switching part controller (item 7h in Figure 6, that changes the switching part). The combination of Aramaki and Matsumoto did not teach explicitly applying a filtering function to received signal strengths. However, Chia teaches in an analogous art, wherein said monitoring comprises: applying a filtering function to received signal strengths (filtering can be performed using ... signal strength, Col. 2, lines 65-68). Therefore, it would be obvious to one of ordinary skill in the art the time of invention to use the method except wherein said monitoring comprises: applying a filtering function to received signal strengths. This modification improves reliability of the signal strength estimate during a deep fade in a high speed environment.

5. Claims 4, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aramaki et al. (US 2005/0078632 hereinafter Aramaki) in view of Matsumoto et al. (JP 10164640 hereinafter Matsumoto) and Valko (US 6519248).

Regarding **claim 4,** the combination of Aramaki and Matsumoto teaches all the particulars of the claim except maintaining a connection with said second access point

by communicating ping packets through said second access point. However, Valko teaches in an analogous art, maintaining a connection with said second access point by communicating ping packets through said second access point (detect base station …periodically sends keep alive packets to the attached base stations, col. 16, lines 39-45; show-up packets are dummy data packets that a terminal sends from time to time as necessary for configuring connection management, col. 12, lines 52-65). Therefore, it would be obvious to one of ordinary skill in the art the time of invention to maintain a connection with said second access point by communicating ping packets through said second access point in order reduce delay in connecting with the new base station. This modification further helps in establishing seamless data-stream handoff wherein it is advantageous to establish the data path with a new base station before the data path with the old base station is torn down (Valko:Col. 18, lines 11-13).

Regarding **claims 10 and 17**, the combination of Aramaki and Matsumoto teaches all the particulars of the claim except 13 wherein said packet switch controller maintains a connection with one of said plurality of access points that is not currently used for data communications by routing ping packets through said one of said plurality of access points. However, Valko teaches in an analogous art, wherein said packet switch controller maintains a connection with one of said plurality of access points that is not currently used for data communications by routing ping packets through said one of said plurality of access points (detect base station …periodically sends keep alive packets to the attached base stations, col. 16, lines 39-45; show-up packets are dummy data packets that a terminal sends from time to time as necessary for configuring

connection management, col. 12, lines 52-65). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use wireless system, wherein said packet switch controller maintains a connection with one of said plurality of access points that is not currently used for data communications by routing ping packets through said one of said plurality of access points in order reduce delay in connecting with the new base station. This modification helps in establishing seamless data-stream handoff wherein it is advantageous to establish the data path with a new base station before the data path with the old base station is torn down (Valko:Col. 18, lines 11-13).

6. Claims 5-6 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aramaki et al. (US 2005/0078632 hereinafter Aramaki) in view of Matsumoto et al. (JP 10164640 hereinafter Matsumoto) and Hoffmann et al. (hereinafter Hoffmann) (US 2005/0075141).

Regarding **claim 5,** Aramaki teaches said plurality of wireless devices and said wireless switch are moving in a common direction (plurality of terminals moving within the train, automobile, ship and the like, therefore, moving in a common direction, P[0001]), the method further comprising: operating a base station associated with said first access point (item 35a in Figure 8) by tracking movement of said plurality of wireless devices(items 21 in Figure 8).

The combination of Aramaki and Matsumoto did not teach explicitly the method further comprising: operating a base station associated with said first access point by tracking movement of said plurality of wireless devices using a directional antenna.

However, Hoffmann teaches in an analogous art the method further comprising: operating a base station associated with said first access point by tracking movement of said plurality of wireless devices using a directional antenna(plurality of devices in Figure 1A, item 1230 in Figure 12).

Therefore, it would be obvious to one of ordinary skill in the art the time of invention to use the method further comprising: operating a base station associated with said first access point by tracking movement of said plurality of wireless devices using a directional antenna in order to in order to efficiently mitigate signal degradation.

Regarding **claim 6**, the combination of the combination of Aramaki and Matsumoto all the particulars of the claim except monitoring received signal strengths associated with respective patterns of antenna elements of said directional antenna; and switching between said patterns in response to monitoring received signal strengths associated with the respective patterns.

However, Hoffmann teaches in an analogous art, monitoring received signal strengths associated with respective patterns of antenna elements of said directional antenna; and switching between said patterns in response to monitoring received signal strengths associated with respective patterns(measuring signal quality ...via the first antenna pattern, ...second pattern; selecting the second antenna pattern ... if the measured signal quality exceeds the ....first antenna pattern, items 1240, 1250 and 1260 in Figure 12). Therefore, it would be obvious to one of ordinary skill in the art the time of invention to use the method of monitoring received signal strengths associated with respective patterns of antenna elements of said directional antenna; and switching

between said patterns in response to monitoring received signal strengths in order to efficiently mitigate signal degradation.

Regarding **claim 14,** the combination of Aramaki and Matsumoto all the particulars of the claim except the wherein one of said plurality of access points comprises a base station with a directional antenna, said base station comprises a controller that tracks movement of wireless switch using said directional antenna through a coverage area of said one of said plurality of access points.

However, Hoffmann teaches in an analogous art wherein one of said plurality of access points comprises a base station with a directional antenna, said base station comprises a controller that tracks movement of remote station using said directional antenna through a coverage area of said one of said plurality of access points(plurality of devices in Figure 1A, item 1230 in Figure 12).

Therefore, it would be obvious to one of ordinary skill in the art the time of invention to have a system wherein one of said plurality of access points comprises a base station with a directional antenna, said base station comprises a controller that tracks movement of wireless switch(wireless switch, as taught by Aramaki/Matsumoto) using said directional antenna through a coverage area of said one of said plurality of access points in order to efficiently mitigate signal degradation.

Regarding **claim 15**, the combination of Aramaki and Matsumoto all the particulars of the claim except wherein said controller of said base station monitors signal strengths received from said wireless switch by a plurality of patterns of discrete antenna elements of said directional antenna.

However, Hoffmann teaches in an analogous art, monitoring signal strengths received from said wireless switch by a plurality of patterns of discrete antenna elements of said directional antenna (measuring signal quality ...comparing signal quality associated with the first and second antenna patterns, items 1240 and 1250 in figure 12). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to monitor signal strengths received from said wireless switch by a plurality of patterns of discrete antenna elements of said directional antenna in order to efficiently mitigate signal degradation.

Regarding **claim 16**, the combination of Aramaki and Matsumoto all the particulars of the claim except wherein said controller of said base station switches between said plurality of patterns in response to said monitoring.

However, Hoffmann teaches in an analogous art, wherein said controller of said base station switches between said plurality of patterns in response to said monitoring (selecting the second antenna pattern ... if the measured signal quality exceeds the ....first antenna pattern, items 1240, 1250 and 1260 in Figure 12). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the wireless system wherein said controller of said base station switches between said plurality of patterns in response to said monitoring in order to efficiently mitigate signal degradation.

7. Claim 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aramaki et al. (US 2005/0078632 hereinafter Aramaki) in view of Matsumoto

et al. (JP 10164640 hereinafter Matsumoto) and Zhang et al. (hereinafter Zhang) (US 2005/0088972).

Regarding **claim 7,** the combination of Aramaki and Matsumoto teaches all the particulars of the claim except wherein receiving packets from the first access point that are associated with transmission control protocol (TCP) sessions and sending acknowledgement packets in response to said receiving using said second station. Matsumoto teaches that after the handover the packets are transmitted through the second station.

However, Zhang teaches in an analogous art, wherein receiving packets from the first access point that are associated with transmission control protocol (TCP) sessions and sending acknowledgement packets in response to said receiving using said second station(TCP packet (packet D) is received through the first access network and the acknowledgement (ack D) is received through the second access network as shown in Figure 3, P[0046]).

Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use wireless system, wherein receiving packets from the first access point that are associated with transmission control protocol (TCP) sessions and sending acknowledgement packets in response to said receiving using said second station in order to improve the adaptation speed of a TCP connection.

Regarding **claim 12,** the combination of Aramaki and Matsumoto teaches all the particulars of the claim except wherein when said packet switch controller switches communications between a first station to a second station, said switch controller

distributes remaining packets received by said first station to said plurality of wireless devices and send acknowledgement packets through said second station.

However, Zhang discloses in an analogous art, wherein when said packet switch controller switches communications between a first station to a second station, said switch controller distributes remaining packets received by said first station to said plurality of wireless devices and send acknowledgement packets through said second station(TCP packet (packet D) is received through the first access network and the acknowledgement (ack D) is received through the second access network, in Figure 3, P[0046]).

Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use wireless system, wherein when said packet switch controller switches communications between a first station to a second station, said switch controller distributes remaining packets received by said first station to said plurality of wireless devices and send acknowledgement packets through said second station in order to improve the adaptation speed of a TCP connection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUTHUSWAMY MANOHARAN whose telephone number is (571)272-5515. The examiner can normally be reached on 6:30am-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

/Muthuswamy G Manoharan/
Examiner, Art Unit 2617